CLAIMS

1. An information recording medium on which a plurality of content information, which includes still picture information constituting a series of contents, is multiplexed-and-recorded by a unit of packet, which is a physically accessible unit, said information recording medium comprising:

an object data file, which is a logically accessible unit, for storing object data which comprises a plurality of packets including packets each storing therein a piece of the content information;

a reproduction sequence information file for storing reproduction sequence information which defines a reproduction sequence of the object data; and

an object information file for storing, as reproduction control information for controlling reproduction of said object data, correspondence definition information for defining a correspondence relationship between the plurality of packets which are multiplexed and the plurality of content information,

wherein the plurality of packets constituting the object data include packets each storing therein a piece of respective one of still picture information sets, the still picture information set including at least one of the still picture information and still picture control information for controlling display of the still picture information and further including structural information for indicating a structure of the still picture information set, and

with respect to at least one portion of the still picture

information, a display control to the still picture information included in one still picture information set out of the still picture information sets is described by the still picture control information included in another still picture information set out of the still picture information sets.

2. The information recording medium according to claim 1, wherein the still picture information set includes at least one of first and third still picture information sets and includes a second still picture information set, out of (i) the first still picture information set for including the still picture information, the still picture control information, and the structural information, (ii) the second still picture information set for including the still picture control information and the structural information but not including the still picture information, and (iii) the third still picture information set for including the still picture information and the structural information but not including the still picture control information.

3. The information recording medium according to claim 2, wherein a display control to the still picture information included in at least one of the first and third still picture information sets is described by the still picture control information included in the second still picture information set.

4. The information recording medium according to claim 2,

wherein a display control to the still picture information included in at least one of the first and third still picture information sets is described by a plurality of the still picture control information included in a plurality of the second still picture information set, so as to perform a plurality of mutually different display controls.

5. The information recording medium according to claim 1, wherein a packet storing the structural information therein is disposed at a head position of the plurality of packets associated with the still picture information set.

6. The information recording medium according to claim 1, wherein out of an identifier of the still picture information, a data length of the still picture control information, a data length of the still picture information, and position information for indicating a recording position of the still picture information, the structural information includes at least the identifier.

7. The information recording medium according to claim 1, wherein the still picture control information includes information for indicating a display start time point of a still picture which is displayed on the basis of the still picture information and information for indicating a display time length of the still picture.

8. The information recording medium according to claim 1, wherein the object data comprises an entire stream which includes a

plurality of portion streams, each comprising the content information, and which is multiplexed by a unit of packet, and

the still picture information set is included in the object data as one or a plurality of portion streams for the still picture information set.

9. The information recording medium according to claim 8, wherein the correspondence definition information has address information including a serial number, which is associated with the packets constituting each portion stream and satisfying a predetermined condition, and a display start time point corresponding to this, for each of the plurality of portion streams.

10. The information recording medium according to claim 9, wherein the correspondence definition information includes:

a flag for indicating whether or not there is a head packet of the still picture information set for including the still picture information, in an entry section specified by two packets adjacent to each other, in an arrangement of only packets whose positions are specified by the address information out of the plurality of packets constituting the portion stream; and

a flag for indicating whether or not there is a head packet of the still picture information set for including the still picture control information, in the entry section.

11. The information recording medium according to claim 9,

wherein if the content information includes video information based on a MPEG 2 (Moving Picture Experts Group phase 2) standard, the address information includes a serial number of the packets associated with an I picture and a display start time point corresponding thereto.

12. An information recording apparatus for multiplexing and recording a plurality of content information, which includes still picture information constituting a series of contents, onto an information recording medium by a unit of packet, which is a physically accessible unit,

said information recording apparatus comprising:

a first recording device for recording an object data file, which is a logically accessible unit, for storing object data which comprises a plurality of packets including packets each storing therein a piece of the content information;

a second recording device for recording a reproduction sequence information file for storing reproduction sequence information which defines a reproduction sequence of the object data; and

a third recording device for recording an object information file for storing, as reproduction control information for controlling reproduction of said object data, correspondence definition information for defining a correspondence relationship between the plurality of packets which are multiplexed and the plurality of content information,

wherein the plurality of packets constituting the object data include packets each storing therein a piece of respective one of still picture information sets, the still picture information set including at least one of the still picture information and still picture control information for controlling display of the still picture information and further including structural information for indicating a structure of the still picture information set, and

with respect to at least one portion of the still picture information, a display control to the still picture information included in one still picture information set out of the still picture information sets is described by the still picture control information included in another still picture information set out of the still picture information sets.

13. An information recording method of multiplexing and recording a plurality of content information, which includes still picture information constituting a series of contents, onto an information recording medium by a unit of packet, which is a physically accessible unit,

said information recording method comprising:

a first recording process of recording an object data file, which is a logically accessible unit, for storing object data which comprises a plurality of packets including packets each storing therein a piece of the content information;

a second recording process of recording a reproduction sequence information file for storing reproduction sequence

information which defines a reproduction sequence of the object data; and

a third recording process of recording an object information file for storing, as reproduction control information for controlling reproduction of said object data, correspondence definition information for defining a correspondence relationship between the plurality of packets which are multiplexed and the plurality of content information,

wherein the plurality of packets constituting the object data include packets each storing therein a piece of respective one of still picture information sets, the still picture information set including at least one of the still picture information and still picture control information for controlling display of the still picture information and further including structural information for indicating a structure of the still picture information set, and

with respect to at least one portion of the still picture information, a display control to the still picture information included in one still picture information set out of the still picture information set is described by the still picture control information included in another still picture information set out of the still picture information sets.

14. An information reproducing apparatus for reproducing the recorded content information from said information recording medium according to claim 1,

said information reproducing apparatus comprising:

a reading device for physically reading information from said information recording medium; and

a reproducing device for reproducing the object data included in the information read by said reading device on the basis of the reproduction control information and the reproduction sequence information included in the information read by said reading device.

15. The information reproducing apparatus according to claim 14, wherein said reproducing device temporarily stores at least one of the still picture information and the still picture control information into a buffer and performs a display control to the still picture information included in the one still picture information set on the basis of the still picture control information included in the another still picture information set.

16. An information reproducing method of reproducing the recorded content information from said information recording medium according to claim 1,

said information reproducing method comprising:

a reading process of physically reading information from said information recording medium; and

a reproducing process of reproducing the object data included in the information read by said reading process on the basis of the reproduction control information and the reproduction sequence information included in the information read by said reading process.

17. An information recording and reproducing apparatus for recording the content information onto said information recording medium according to claim 1 and reproducing the recorded content information,

said information recording and reproducing apparatus comprising:

a first recording device for recording the object data file;

a second recording device for recording the reproduction sequence information file;

a third recording device for recording the object information file;

a reading device for physically reading information from said information recording medium; and

a reproducing device for reproducing the object data included in the information read by said reading device on the basis of the reproduction control information and the reproduction sequence information included in the information read by said reading device.

18. An information recording and reproducing method of recording the content information onto said information recording medium according to claim 1 and reproducing the recorded content information,

said information recording and reproducing method comprising:

a first recording process of recording the object data file;

a second recording process of recording the reproduction sequence information file;

a third recording process of recording the object information file;

a reading process of physically reading information from said information recording medium; and

a reproducing process of reproducing the object data included in the information read by said reading process on the basis of the reproduction control information and the reproduction sequence information included in the information read by said reading process.

19. A computer program for controlling record which controls a computer provided in said information recording apparatus according to claim 12 and which causes the computer to function as at least one portion of said first recording device, said second recording device, and said third recording device.

20. A computer program for controlling reproduction which controls a computer provided in said information reproducing apparatus according to claim 14 and which causes the computer to function as at least one portion of said reproducing device.

21. A computer program for controlling record and reproduction which controls a computer provided in said information recording and reproducing apparatus according to claim 17 and which causes

the computer to function as at least one portion of said first recording device, said second recording device, said third recording device, and said reproducing device.

22. A data structure including a control signal, in which a plurality of content information, which includes still picture information constituting a series of contents, is multiplexed-and-recorded by a unit of packet, which is a physically accessible unit, comprising:

an object data file, which is a logically accessible unit, for storing object data which comprises a plurality of packets including packets each storing therein a piece of the content information;

a reproduction sequence information file for storing reproduction sequence information which defines a reproduction sequence of the object data; and

an object information file for storing, as reproduction control information for controlling reproduction of said object data, correspondence definition information for defining a correspondence relationship between the plurality of packets which are multiplexed and the plurality of content information,

wherein the plurality of packets constituting the object data include packets each storing therein a piece of respective one of still picture information sets, the still picture information set including at least one of the still picture information and still picture control information for controlling display of the still picture information and further including structural information for indicating a

structure of the still picture information set, and

with respect to at least one portion of the still picture information, a display control to the still picture information included in one still picture information set out of the still picture information sets is described by the still picture control information included in another still picture information set out of the still picture information sets.